

MARINE PHYTOPLANKTON OF PHRA THONG ISLAND ON THE WESTERN COAST OF THAILAND

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ABSTRACT: A study on the diversity of marine phytoplankton at Phra Thong Island, Phangnga Province, Thailand was carried out in January 2016. Phytoplankton was sampled at 12 stations using plankton nets with mesh size of 20 micrometres. A standard bottle was used to collect water samples for vertical distributions study at 1–3 levels: subsurface, middle and 0.5 metre above the bottom. Sixty-five species were identified by light microscope. Forty-nine diatom, 12 dinoflagellate, 3 cyanophyte, and 1 silicoflagellate species were found. The most diverse dinoflagellate genus was *Ceratium*. Other diverse diatom genera were *Chaetoceros* and *Rhizosolenia*. Phytoplankton density ranged 38–1,230 cells L⁻¹. Following species were most abundant *Guinardia flaccida*, *Rhizosolenia bergonii*, and *Bacteriastrum hyalinum*. Principal component analysis suggested that the structure of the phytoplankton communities was determined by hydrology and nutrient concentrations. Multivariate analysis revealed that a total dissolved nitrogen and phosphorus concentrations were the major factors controlling phytoplankton abundance. The results of the present study give an improved understanding of the factors that structure the coastal phytoplankton communities at Phra Thong Island.

Keywords: biodiversity, marine phytoplankton, Phra Thong Island, the Andaman Sea
